

MEMORANDUM

89010

Date: June 05. 1989

To: B. Butman, H. Knebel, T. Aldrich, S. Barton, J. Newell,
T. O'Brien, G. Sexton, N. Soderberg, R. Davis, A. Greatorex,
B. Irwin, G. Driscoll, L. North, D. Hutchinson, F. Shores,
W. Lombard

From: B. Irwin

Subject: Cruise Report CSS LIMNOS-89-1

Vessel: CSS LIMNOS is operated by the Canadian Department of
Fisheries and Oceans (DFO).

Branch Principal: Barry Irwin

Cruise Area: Lake Huron and Georgian Bay

Cruise Dates: 13 May to 26 May, 1989

Ports: Sarnia, Ontario
Goderich, Ontario
Sarnia, Ontario

Scientific Party; Affiliation:	Barry Irwin	USGS-AMG
	George Driscoll	USGS-AMG
	Dave Lubinski	USGS-AMG
	Roy Cooper	GSC
	Bryne Hearty	GSC
	Jack Wilson	GSC
	Rick Beach	GSC

Purpose: To collect marine gravity and bathymetry data on Lake Huron
and Georgian Bay at a 5 nmile line spacing in the east-west
direction. This survey is in support of the GLIMPSE Project.
The proposed survey covers 3400 nmiles in the 14 day period.

Equipment:	L&R Sea Gravimeter SL-1	GSC
	L&R Sea Gravimeter S-26	USGS
	L&R Land Gravimeter G-172	GSC
	Megapulse 500 LORAN-C	USGS
	TI-4100 GPS	GSC
	Pathfinder GPS	GSC
	Gravity Logging System	USGS
	Xenix Data Processing System	USGS
	MiniNav System	USGS
	Digital Echo Sounder	GSC

Data types: Gravity data, raw and eotvos corrected on magnetic tape
Bathymetry data, paper records and magnetic tape

Narrative : The CSS Limnos departed Sarnia, Ontario on 13 May 89
at 1300Z (0900 local). On 19 May 89 the ship stopped in

Goderich, Ontario for a mid-cruise gravity land station tie and departed after 4 hours. The cruise ended back in Sarnia, Ontario on 26 May 89 at 1815Z (1415 local). Both sea gravity meters were run and compared continuously in real time by the navigation and gravity logging system. The only major problems encountered were on the 24 and 25 of May while in Lake Michigan. The weather turned bad and the Loran-C chain went off the air for scheduled repairs. Consequently lines J5, J6 and J7 are of lower quality. A total of 3030.4 nmi. were steamed in 13 days of which 2450.3 nmi. were surveyed miles. The cruise unadjusted crosscheck statistics were 1.3 mgals rms for 55 points with a mean of 0.2 mgals.